From Preservation Guide

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5. Making a Preservation Plan – and Budget

Make a Preservation Plan and Budget:
• How much will it cost? • How long can you wait? • Creative funding • Getting Value for Money • Benchmark costs

5.1 What to do

Once you have a map of the collection, and a strategy for the collection, the **preservation strategy** is not complicated. There are really only two options:

- Items will be conserved
- if conservation is not possible or useful then they will be transferred to something new

The difficulties are in the detail.

The requirements for **conservation** are the first consideration. For items that have passed beyond the conservation stage, there are two areas requiring decisions:

- when to take action
- what specific action to take

A preservation strategy is simply a schedule of actions. Every type of content in your collection map should have a place in the schedule, showing what action is being taken – and when the decision will be reviewed.

So what is a preservation plan? The plan adds the specifics. The strategy may say ‘conserve another 10 years and then review’, or it may say ‘make new master copy’. The strategy may even say ‘make new digital master copy’. But it is the plan that say exactly what the conservation method will be – and the real complication comes in saying what the exact method will be for making a new master.

The basic decision about a new master copy is analogue or digital. The official PrestoSpace advice is that, except for film, there is now NO reason to ever make an analogue copy of audio or video. It will cost more -- and give less benefit – than digitising.

In consequence, the main new information in a preservation plan (as compared with a strategy) is:

- the exact specification of the digital object that will be made
- who will make it
- how long the process will take

For a large project, there is a lot more detail in a plan – because a large collection cannot send all its material out for transfers at one time. So a large collection breaks the digitisation into phases, and the plan should define the phases. For instance, a collection of U-Matic tapes covering a 10-year age range might be done in groups of one year’s worth of tapes at a time, working from the oldest to the youngest.

Here is the (hypothetical) strategy for the BBC 16mm film collection previously discussed, followed by a simple preservation plan:

Preservation Strategy: BBC film

Type of material	Condition	Action needed	Timescale	In-house or contracted?
16m mag sound track - masters	vinegar syndrome!	digitisation to file formats; destruction of originals	2 years starting immediately	Contracted; checking in-house

16m mag sound track - duplicates	vinegar syndrome!	destruction (after respective masters are transferred and checked)	2 years starting immediately	In house
16mm Ektachrome	some colour fade	Access copies made on digibeta and DVD	Starting when budget allows: in 2 years	Preparation and checking in-house; telecine contracted out
16mm B&W film negatives	good	Maintain in appropriate storage conditions; review condition at intervals	Review plan and condition every five years	Review is done in-house
16mm B&W film prints	fair: have been circulated	Maintain in appropriate storage conditions	Keep until preservation actions taken on negatives	Storage is in-house

Preservation Plan: BBC film

Type of material	Preservation Action	Service Provider	Batching	Outcome	Quality Control
16m mag sound track - masters	Digitisation at CD quality: 44.1 kHz sampling @ 16 bits; synch pulses recorded on 2nd CD channel	Three outside contractors selected by competitive tender	Monthly basis	One audio CD and one BWF file (on CD-ROM) per original mag sound track	Internal spot checking of each CD. Selective end-to-end checking. Done in-house.
16m mag sound track - duplicates	None				
16mm Ektachrome	Conservation for 2 more years; 10° C; 35% rh	In House			
16mm B&W film negatives	Conservation for 5 more years; 10° C; 40% rh	In House			
16mm B&W film prints	Conservation for 5 more years; 17° C; 35% rh	In House			

Of course there are a lot more decisions to be made for actual running of the transfers. It is easy to write ‘batching: monthly basis’. In an actual project, the entire collection of magnetic sound tracks has to be identified [in the catalogue if possible], identified on the shelves, segregated immediately to a new room (because of the threat of contamination), and then a method devised for sending the right amounts of material each month to each contractor. The checking has to be decided upon and organised. Service level agreements with the contractor are needed – and these agreements have to be monitored and managed. That’s all important, but it’s not part of the headline preservation plan. Rather, all those considerations constitute the detail that makes the plan work.

A lot of detail is about metadata: how the items are to be found, and how the ‘outcome’ items are to be labelled and identified. Ideally every physical new item will have an integral bar code and packaging with a bar code – and the bar codes will agree with the catalogue for the collection. One **of the easiest ways to save time and money in any large project is to use bar codes** for identification of items. Trained audio and video specialists can get on with their specialised work in an efficient manner if bar codes are used. If the metadata and physical identification is not thought through and automated, up to half (we know; we’ve been there) of a trained specialist’s time can be expended on purely logistical issues of identifying and re-labelling of items. **Quality control also suffers with manual identification**, as labels can get mixed up, words get misspelled and a range of other human errors can creep into the process.

A vital preservation decision is: what to migrate onto (what new format to use). All the information that PrestoSpace can supply to help make the decision is presented in the **digitisation** section. However PrestoSpace has two other kinds of help:

- specific technology for advancing the **state-of-the-art in digitisation**;
- the **preservation factory**: a concept adopted by service providers to provide audiovisual collections with affordable services at archive quality.

Top **5.2 How much it will cost** PrestoSpace has a detailed model for estimating costs of a transfer project – but at the heart of the model is a per-item or per-hour contractor cost. Although the model has a default value, the user really should update this value, based on negotiation with a service provider.

If transfers are being done in-house, there is no service provider to ask. However cost estimation for in-house projects are filled with uncertainties, because of the many different ways that collections count their costs.

The best way to estimate costs is to do a pilot project, and work out the average time taken for two cases: • a simple transfer, where nothing goes wrong • a problem transfer, where extra steps are needed to make the transfer work

The other key item of information required by the model is an estimate of the percentage of the material that will have a problem. Typically problem material costs something like four times as much (takes four times as long) as non-problem material. This ratio means that for a project with 20% problem material, half the budget goes on the problem 20%, and the other half goes on the simple 80%. If money is insufficient to pay for everything that a collection needs (and all archives have budget problems), then it makes sense to get 80% of the archive transferred rather than 20%, by concentrating on the straightforward material.

This is the principal of triage, and it is a cornerstone of the preservation factory. If resources are limited, as in doctors at a disaster, triage is used to get the best result from the limited resources. For archives, resources are always limited, and triage is always preferable to simply allowing chance to determine what is saved and what isn't.

It is then up to the user of the PrestoSpace model to convert from time to cost, and use the model to estimate full project costs.

PrestoSpace is working in two areas to support triage decisions. The project is collecting data on batches of media, to build a database of information on media which is likely to cause problems **CRCDG deliverable?**. The project is also developing practical methods for making condition assessment – a method to detect deterioration before it reaches the stage where it causes playback problems **another CRCDG deliverable?**. Clearly this is a very useful extension to the triage process: first save the material which can still play (first time) but won't play so well for much longer.

Some example costs: see **Benchmark costs**

The PrestoSpace cost model also includes acquisition of new technology: mass storage for holding electronic files – and cost of making web-quality versions as well. The only significant aspect of "preservation by transfer to digital format" that is not covered in the model is cataloguing. However cataloguing is very much a part of the overall PrestoSpace concept – including important new technology for automatic generation of metadata for certain materials **MAD deliverable?**

Top **5.3 How long to wait** There are three reasons for moving from old to new media:

- the condition of the current material forces action: this could be physical damage, or chemical processes.
- the format is no longer convenient to use; it is obsolete or soon will be obsolete
- there is a pressing case for adopting digital technology, to improve services and reduce maintenance costs

Under the section on **conservation**, information and references were given on predicting life expectancy of common media. Typically video formats will physically outlast their "format life", and formats in videotape now have a useful life (before being replaced by newer formats) of around 10 years. Recent audio formats have had about a 20 year life. However both audio and video are moving to an era where the whole concept of physical format is being replaced by electronic files. More commercial music is now being distributed by files than by any other method **[1]** .

Professional video is also moving to file formats. Domestic video continues to use optical media (DVD) and will continue to do so for at least twenty years. Existing DVDs are being replaced by new, high-capacity DVDs – but there is a currently a 'format war' between two competing, incompatible version of high-capacity DVD **[2]**.

The conclusion is that current media may last for more 20 more years or more, but format obsolescence and the advantages of digital technology are pushing ALL collections to adopt digital technology – even film, where digital restoration and digital access copies (DVDs) are the motivations.

Twenty years is not a long time on archive scales, so effectively all audiovisual collections are now faced with the necessity or desirability of digitisation projects.

Top 5.4 Creative approaches to funding

The basic PrestoSpace message around funding is that "access attracts support" – but it is up to the individual collection to turn that generalisation into something specifically useful – and profitable – for themselves. PrestoSpace has concentrated on reducing the cost of preservation processes (digitisation, metadata) because by and large we are engineers, not financial advisors. However we hope in the final stages of PrestoSpace to collect useful information on funding sources and possibilities, and put the information on the project website.

However there are two aspects of funding that relate directly to technology:

- **Incremental funding-** The cost of mass storage, whether for hard discs or for data tape, has been dropping sharply (reducing by 50% every 18 to 24 months) and that trend has continued for twenty years, so it should continue for at least another ten and probably another twenty years. This means that storage should be bought as late as possible, and it makes sense to but storage in small rather than large quantities, and only when needed. It is pointless getting a 20% quantity discount now, if a 50% reduction is available just by waiting 18 months.

The essential condition for benefiting from these cost reductions is that technology bought in bits and pieces rather than all at once has to fit together. This isn't an obstacle, just a consideration.

- **Giving away access-** The idea here is that publicity is good for a collection. If there are commercial possibilities for a collection, conventional thinking was that you shouldn't give away anything that you can sell. But even conventional thinking would agree that you have a better chance of selling something if you have a widely-distributed catalogue – with nice pictures. Putting archive material on the web should be thought (by commercial collections) of as a catalogue, not as a lost sale. There are now statistics from collections which have 'given away' web versions of their content, showing dramatic increases in business resulting from the simple fact that the free material on the web was effective advertising **Prelinger ref**[?].

Top 5.5 Getting best value for money: the factory approach

The **preservation factory** information shows how to make preservation transfer budgets stretch twice as far – or even four times as far in some cases (when there is a sufficient amount of material of the same technical format and of similar physical condition). The Supplement on **Service Providers**[?] gives information on providers of preservation services.

Top 5.6 Benchmark costs

[?? 100€ per hour for video as a basic offering; give breakdown of labour, materials, facilities;] [Sony announced a rate card at FIAT in September 2005, but we can't advertise their rates.] [This section must remain incomplete pending further discussions with the service provider industry.]

References

1. "In late December 2005, weekly singles sales topped CD sales for the first time, as American consumers -- many of them flush with holiday gift cards and loading new MP3 players -- purchased 19.9 million digital tracks but just 16.8 million albums, according to Nielsen SoundScan" **http://www.washingtonpost.com/wp-dyn/content/article/2006/02/07/AR2006020702051.html**
2. "The two formats fighting for supremacy as the next-generation videodisc format are HD-DVD (developed by Toshiba and NEC) and Blu-ray (developed by Sony). The DVD Forum supports HD-DVD, but this does not mean that HD-DVD has won the format war." **http://www.hddvd.org/hddvd/** also: **http://en.wikipedia.org/wiki/Blu-ray_disc**
